ROUND LAKE WHITLEY COUNTY

FISH MANAGEMENT REPORT 2002

INTRODUCTION

Round Lake is a 131-acre natural lake located in northern Whitley County. A public access site is located on the west shore. This access also serves Cedar Lake via a boatable channel. Shriner Lake drains into Round Lake near the boat ramp but is not accessible from Round Lake. The three lakes together are known as Tri-Lakes. The Tri-Lakes community formed a sewer district prior to the 1993 fish survey and since that time has competed a sanitary sewer project.

Tiger muskie were stocked in Round Lake in 1978, 1980, and 1981. Survival of these fish was poor and stocking was discontinued after 1981. A 14-inch minimum size limit was instituted on largemouth bass in 1984.

Mark-recapture population estimates were conducted on the Round Lake largemouth bass population in 1981, 1982, and 1983. A general fisheries survey was conducted in 1978. Since the implementation of the 14-inch minimum size limit in 1984, largemouth bass population estimates have been conducted annually from 1984 to 1988 as well as in 1993 as part of a statewide project to evaluate the new regulation (Table 1). A general fisheries survey was last conducted at Round Lake in 1993.

Round Lake is a productive lake and in its shallow areas supports extensive submergent and emergent vegetation (Braun 1993; Table 2). However, as is the problem in most natural lakes in northern Indiana, Eurasion watermilfoil (EWM) has invaded Round Lake and is out-competing desirable native aquatic vegetation and threatening recreational use on the lake.

In the summer of 2002 a private consulting firm was awarded a DNR Lake and River Enhancement Program (LARE) grant to study the impacts of a milfoil weevil release on Eurasian watermilfoil in Round and two other lakes (Scribailo 2001).

The initial vegetation survey and weevil stocking at Round Lake was

conducted in June 2000. Nine thousand weevils were stocked at three locations in Round Lake (3,000 at each site). A third party vendor conducted the stocking as well as the final vegetation and weevil surveys in the summer of 2002 (EnviroScience 2002). Both vendors reported substantial weevil damage to the milfoil stands and documented the presence of all life stages of the weevils at the three study sites. EnviroScience (2002) found two native plant species in the 2002 sample that were not originally observed in the initial survey and the finding was attributed to the reduction of EWM density at the study sites.

Results of this study may not be as clear as the reports indicate. The study results were likely confounded by lack of communication between the researchers and the presence of a natural population of weevils. This population was unknown to the researchers until the initial vegetation survey and weevil stockings were complete. Also, a small shoreline herbicide treatment in late June of 2001 nearly caused the eradication of EWM at one study site. This treatment and its effects were not known by the researchers at the time of their final surveys or when the reports were written.

A general fisheries survey was conducted 24-26 June 2002. Sampling consisted of one hour of DC electrofishing, six gill net lifts, and six trap net lifts. Water quality measurements were also collected.

RESULTS

Water quality at Round Lake continues to be good. Although surface temperature was nearly ten degrees higher in 2002 compared to 1993 (82°F and 73 °F, respectively) and dissolved oxygen was present only half as deep (40 feet in 1993 and 22 feet in 2002), Round Lake exhibits excellent water quality for Indiana's natural lakes. Secchi depth was 14 feet compared to 17 feet in 1993.

From 24-26 June 1,347 fish weighing 414.03 pounds were collected

using general fisheries survey methods. The catch consisted of 16 species and one hybrid sunfish. Bluegill, largemouth bass, redear sunfish, and yellow perch accounted for 75.9% of the total number and 55.4% of the total weight (Table 3).

Bluegill was the most abundant species collected (n=604, 44.8%) and ranked fourth in weight (37.6 pounds, 9.1%). Proportional stock density of bluegill was 20.4 and RSD-8 was 9.6. Thirty-four bluegill were >=8 inches. Length ranged from 1.4 – 9.9 inches and the sample was represented by fish ages 1+ - 6+. Bluegill growth was below the average for bluegill in Indiana's natural lakes at ages 1+ - 3+ but substantially higher for ages 4+ - 6+ (Figure 1). The electrofishing catch rate for bluegill in 2002 was 81 fish per hour.

Largemouth bass was the second most abundant species in the sample (n=210, 15.6%) and ranked first in weight (109.1 pounds, 26.4%). The electrofishing catch rate for bass was 171 fish per hour. Largemouth bass ranged in length from 3.7 – 17.6 inches and ages 1+ - 9+ were present in the sample. Stock density indices based on the electrofishing sample were: PSD = 31 and RSD-14 = 6. Only eight largemouth bass collected were >=14 inches and three were ≥16 inches. Bass growth was relatively consistent with the natural lakes average and previous years' samples up to age-5+. After age-5+ growth was generally slower (Figure 2).

Redear sunfish accounted for 7.8% of the sample by number with 105 collected. Redear PSD was 66.2 and RSD-9 was 12.7. One redear was >=10 inches. Ages 1+ - 6+ were present in the sample. Length ranged from 2.1 – 10.1 inches.

Yellow perch made up 7.7% (n=104) of the sample by number and ranked second by weight (57.1 pounds, 13.8%). Ages 1+ - 5+ were represented in the sample and these fish ranged in length from 3.7 – 12.3 inches. Most of the perch were ages 3+ and 4+ and the last two year classes (ages 1+ and 2+) were virtually non-existent in the sample. Stock density indices for yellow perch were: PSD = 95.1, RSD-10 = 57.8, and RDS-12 = 3.9.

Warmouth was the third most abundant species captured in the sample (n=149, 11.1%). Other species collected in some abundance were lake chubsucker

(n=51, 3.8%), yellow bullhead (n=35, 2.6%), spotted gar (n=22, 1.6%), and pumpkinseed (n=20, 1.5%).

Six rainbow trout were collected and accounted for 12.3% of the total catch by weight. These fish ranged in length from 15 – 19.6 inches and are from the spring stocking in Cedar Lake. Table 3 displays historical species occurrence and abundance in Round Lake.

DISCUSSION

Historically, Round Lake has supported a dense largemouth bass population. From 1981 to 1993 bass densities ranged from 29 to 55 per acre. Braun (1993) noted that the 1993 largemouth bass density of 31.7 fish per acre made Round Lake one of the most abundant largemouth bass populations in Indiana – 31.7 bass per acre was the second lowest density recorded in eight previous surveys.

Catch rates for largemouth bass have been much more variable ranging from 44.5 to 176.8 fish per hour. In 1986, after instituting the 14-inch minimum size limit on bass, catch rates for bass more than doubled compared to the previous two surveys. Catch rates well above 120 fish per hour have been documented for each survey since 1986. Despite the apparent increase in largemouth bass density, PSD values have been higher (mean=37.7, n=3, range=20.3-61.9) since 1988. Prior to 1988, PSDs ranged from 11.7-21 and averaged 15.1. It should be noted, however, that the 1993 PSD was exceptionally high even compared to 1988 and 2002 (Table 1). Braun (1993) reported a disproportionate number of bass in the 12 -13 inch size groups. This large number of bass stockpiling immediately under the 14-inch length limit would result in an inflated PSD. Although the disproportionate number of bass between 12 and 13 inches is not as evident in 2002, 95% (n=163) of the largemouth bass captured via electrofishing were less than 14 inches. Most of these fish were between nine and 12.5 inches (65%, n=111). This, accompanied with mediocre growth, could result in bass stockpiling under the 14-inch size limit in the future.

Bluegill PSD decreased from 1993 to 2002 but the number of fish eight inches or larger has remained constant (n=37 and

n=34 in 1993 and 2002, respectively). Nearly twice as many bluegill were collected in 2002 compared to 1993. These additional fish were primarily smaller bluegill below stock size. Despite the increased number of small fish and the dense aquatic vegetation, it is apparent that the perennial dense largemouth bass population keeps the bluegill in check. The intense predation on smaller bluegill allows better growth in the older bluegill (Figure 1) and the continued production of quality bluegill.

Other panfish appear to be responding similarly to the abundant largemouth bass. Yellow perch and redear sunfish numbers are low but PSDs and RSD-Ps are high (Table 3). Fifty-six percent (n=59) of the yellow perch captured were at least ten inches long and four were at least 12 inches. Similarly, 44.7% (n=47) of the redear were seven inches or larger and nine were at least nine inches.

RECOMMENDATIONS

- 1. Alternative largemouth bass regulations to improve size structure and growth should be considered.
- 2. The panfishery should be promoted through the news media.
- 3. Effectiveness of the milfoil weevil should continue to be evaluated.

Submitted by: Matt Burlingame

Date:

Date: 6 June 2004

Approved by:

Stuart Shipman Fisheries Supervisor 2 February 2005

Braun, E. R. 1993. Round Lake, Whitley County Fish Management Report. Indiana Department of Natural Resources. Indianapolis, IN.

EnviroScience, Inc. 2002. Final progress report for the implementation of the MiddFoil Process for eurasian watermilfoil control to Round Lake, IN. EnviroScience, Inc. Stow, OH.

Scribailo, R. W. 2001. Year one report on the weevil release study for Indiana lakes. Aquatic Restoration Systems. Porter, IN.

Table 1. Largemouth bass population data collected at Round Lake, Whitley County, IN from 1981 to 2002

		Year									
	1981	1982	1983	1984	1985	1986	1987	1988	1993	2002	
Population est.	3796	7173	7066	3760	5287	5837	4673	5844	4153		
Number/acre	29	55	54	29	39	44	35.7	44.6	31.7		
Pounds/acre	11	35	21.5	16.6	18.3	21	19.5	20.6			
CPUE (EF)	72.6	89.5	84.9	44.5	57.9	124.5	176.8	151.7	149.5	171	
PSD	13	14	17	21	15	13.7	11.7	20.3	61.9	27.1	
Size range (in)	2.0-21.5	1.5-20.5	3.0-21	4.0-22	3.5-21	3.5-21.5	3.1-22	3.5-22	3.1-21.1	3.7-17.6	

Table 2. Aquatic vegetation identified in Round Lake, Whitley County, IN during the summer of 2001. Adapted from Scribailo (2001).

Common Name	Family	Species	Indiana Status*
Arrow arum	Araceae	Peltandra virginica	
Common forget-me-not	Boraginaceae	Myosotis scorpiodes	
Common coontail	Ceratophyllaceae	Ceratophyllum demersum	
Eurasian watermilfoil	Haloragaceae	Myriophyllum spicatum	
Slender waterweed	Hydrocharitaceae	Elodea nuttallii	
Eel grass		Vallisneria americana	
Blue flag	Iridaceae	Iris virginica	
Small duckweed	Lemnaceae	Lemna minor	
Star duckweed		L. trisulca	
Giant duckweed		Spirodela polyrhiza	
Swamp loosestrife	Lythraceae	Decodon verticillatus	
Slender naiad	Najadaceae	Najas flexilis	
Yellow water lily	Nympaeaceae	Nuphar advena	
White water lily		Nymphaea odorata subsp. tuberosa	
Marsh purslane	Onagraceae	Ludwigia palustris	
Pickerel weed	Pontederaceae	Pontederia cordata	
Large-leaved pondweed	Potamogetonaceae	Potomageton amplifolius	
Curly leaf pondweed		P. crsipus	
Long-leaved pondweed		P. nodosus	
Small pondweed		P. pusillus	SR, G5, S2
White-stemmed pondweed		P. praelongus	SE, G5, S1
Richardson's pondweed		P. richardsonii	ST, G5, S2
Stiff pondweed		P. strictifolius	SE, G5, S1
Flat-stemmed pondweed		P. zosteriformis	
Sago pondweed		Stuckenia pectinata	
Common cattail	Typhaceae	Typha latifolia	

^{*}SR = state rare, ST = state threatened, SE = state endangered, G5 = globally widespread and secure, S1 = critically imperiled in state, S2 = imperiled in state

Table 3. Historical list of species and relative abundance of fishes collected at Round Lake, Whitley County, IN.

williey County, IN.		1978			1993			2002	
Species	No.	%	PSD	No.	%	PSD	No.	%	PSD
Bluegill	307	37.3		357	45.6	31	604	44.8	20.4
Largemouth bass*	51	6.2		132	16.86	35	210	15.6	27.1
Redear sunfish	84	10.2		32	4.1		105	7.8	66.2
Yellow perch	32	3.9		39	5	43	104	7.7	95.1
Black crappie	12	1.5		20	2.6		5	0.4	
Pumpkinseed	21	2.6		12	1.5		20	1.5	
Spotted sunfish	5	0.6							
Warmouth	85	10.3		63	8.1		149	11.1	
Hybrid sunfish				1	0.1		8	0.6	
Walleye				1	0.1				
Northern pike	1	0.1		1	0.1				
Yellow bullhead	84	10.2		15	1.9		35	2.6	
Brown bullhead	7	0.9		13	1.7		11	8.0	
Black bullhead	21	2.6							
Rainbow trout							6	0.4	
Brown trout	3	0.4							
Grass pickerel	7	0.9		6	8.0		5	0.4	
Common carp				1	0.1		3	0.2	
Golden shiner	1	0.1		4	0.5		5	0.4	
Brook silverside	3	0.4							
Spotted gar	26	3.2		11	1.4		22	1.6	
Bowfin	7	0.9		5	0.6		4	0.3	
Johnny darter				2	0.3				
Lake chubsucker	65	7.9		34	4.3		51	3.8	
Blackchin shiner	Abu	ndant		31	4				
Bluntnose minnow	Abu	ndant							
Central mudminnow				2	0.3				
Blackstripe topminnow				1	0.1				
Madtom	1	0.1							
Total	823			783			1347		

^{*}Largemouth bass PSDs were calculated using only electrofishing samples, all other PSDs were calculated from samples of all gear types

¹⁹⁷⁸ effort: gill net = 12 lifts, trap nets = 12 lifts, AC electrofishing = 2 hrs (1 hr day, 1 hr night)

¹⁹⁹³ effort: gill net = 6 lifts, trap net = 6 lifts, DC electrofishing = 1 hrs

²⁰⁰² effort: gill net = 6 lifts, trap net = 6 lifts, DC electrofishing = 1 hr

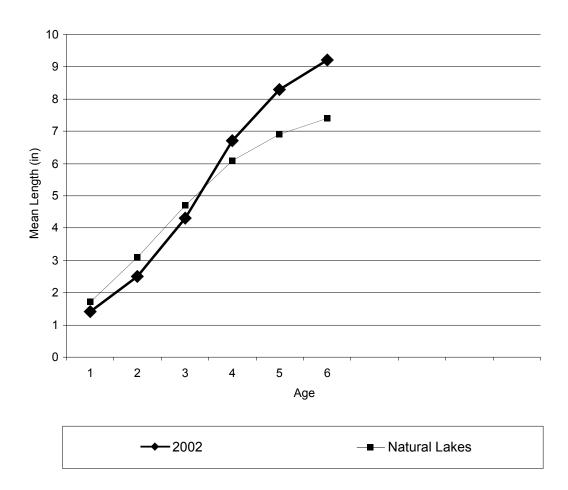


Figure 1. Mean back-calculated lengths at age of bluegill collected at Round Lake, Whitley County, IN in 2002 and the natural lakes average.

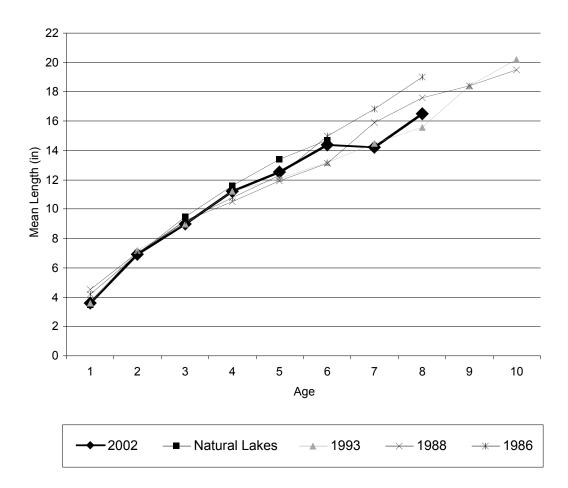


Figure 2. Mean back-calculated lengths at age of largemouth bass for selected years collected at Round Lake, Whitley County, IN.

Body of water			Round Lake
Date:	06/24/02	to	06/26/02
Species:	Bluegill		

Total number:	604		3.6	
Length range:	1.4	to	9.9	
Total weight:	37.55	PSD:		43.4

Effort:	GN lifts:	6	EF hrs:	1	TN lifts:	6
CPE:	1.7		81.0		85.5	

	GN	<u>%</u>	<u>EF</u>	<u>%</u>	<u>TN</u>	<u>%</u>	<u>Total</u>	<u>%</u>
SS	10	100.0%	53	65.4%	290	56.5%	353	58.4%
QS	8	80.0%	23	28.4%	41	8.0%	72	11.9%
PS	6	60.0%	9	11.1%	19	3.7%	34	5.6%
MS	0	0.0%	0	0.0%	0	0.0%	0	0.0%
TS	0	0.0%	0	0.0%	0	0.0%	0	0.0%
HS	8	80.0%	23	28.4%	42	8.2%	73	12.1%
Total	10		81		513		604	

<u>Length</u>	<u>GN</u>	<u>%</u>	EF	<u>%</u>	<u>TN</u>	<u>%</u>	<u>Total</u>	<u>%</u>	Ave. Wt.	<u>Age</u>
1.5	0	0.0%	13	16.0%	0	0.0%	13	2.2%	0.00	1
2.0	0	0.0%	5	6.2%	9	1.8%	14	2.3%	0.01	1
2.5	0	0.0%	3	3.7%	111	21.6%	114	18.9%	0.01	1, 2
3.0	0	0.0%	10	12.3%	229	44.6%	239	39.6%	0.02	2
3.5	0	0.0%	8	9.9%	86	16.8%	94	15.6%	0.03	2
4.0	1	10.0%	4	4.9%	28	5.5%	33	5.5%	0.04	2
4.5	0	0.0%	3	3.7%	7	1.4%	10	1.7%	0.06	2, 3
5.0	1	10.0%	7	8.6%	0	0.0%	8	1.3%	0.09	3
5.5	0	0.0%	5	6.2%	1	0.2%	6	1.0%	0.12	3
6.0	0	0.0%	1	1.2%	3	0.6%	4	0.7%	0.16	3
6.5	0	0.0%	4	4.9%	3	0.6%	7	1.2%	0.19	3, 4
7.0	1	10.0%	3	3.7%	2	0.4%	6	1.0%	0.26	3, 4
7.5	1	10.0%	3	3.7%	9	1.8%	13	2.2%	0.30	4
8.0	1	10.0%	8	9.9%	10	1.9%	19	3.1%	0.38	4,5
8.5	3	30.0%	3	3.7%	7	1.4%	13	2.2%	0.46	4, 5
9.0	1	10.0%	1	1.2%	5	1.0%	7	1.2%	0.52	5, 6
9.5	1	10.0%	0	0.0%	2	0.4%	3	0.5%	0.61	6
10.0	0	0.0%	0	0.0%	1	0.2%	1	0.2%	0.69	6

Body of water:		Round Lake
Date: 06/2	4/02 to	06/26/02
Species:	Lar	gemouth bass

Total number:	210	Avg. Ln.:		10.2
Length range:	3.7	to	17.6	
Total weight:	109.13	PSD:		27.1

Effort:	GN lifts:	6	EF hrs:	1	TN lifts:	6
CPE:	4.5		171.0		2.0	

	GN	<u>%</u>	<u>EF</u>	<u>%</u>	<u>TN</u>	<u>%</u>	<u>Total</u>	<u>%</u>
SS	25	92.6%	144	84.2%	5	41.7%	174	82.9%
QS	3	11.1%	39	22.8%	3	25.0%	45	21.4%
PS	1	3.7%	6	3.5%	0	0.0%	7	3.3%
MS	0	0.0%	0	0.0%	0	0.0%	0	0.0%
TS	0	0.0%	0	0.0%	0	0.0%	0	0.0%
HS	2	7.4%	8	4.7%	0	0.0%	10	4.8%
Total	27		171		12		210	

<u>Length</u>	GN	<u>%</u>	<u>EF</u>	<u>%</u>	<u>TN</u>	<u>%</u>	<u>Total</u>	<u>%</u>	Ave. Wt.	<u>Age</u>
3.5	0	0.0%	1	0.6%	0	0.0%	1	0.5%	0.02	1
4.0	0	0.0%	3	1.8%	2	16.7%	5	2.4%	0.03	1
4.5	0	0.0%	1	0.6%	3	25.0%	4	1.9%	0.04	1
5.0	0	0.0%	3	1.8%	1	8.3%	4	1.9%	0.05	1
6.5	0	0.0%	1	0.6%	0	0.0%	1	0.5%	0.12	2
7.0	0	0.0%	3	1.8%	0	0.0%	3	1.4%	0.13	2
7.5	1	3.7%	13	7.6%	1	8.3%	15	7.1%	0.18	2
8.0	3	11.1%	6	3.5%	0	0.0%	9	4.3%	0.21	2
8.5	2	7.4%	7	4.1%	0	0.0%	9	4.3%	0.25	2, 3
9.0	4	14.8%	13	7.6%	0	0.0%	17	8.1%	0.29	3
9.5	0	0.0%	8	4.7%	0	0.0%	8	3.8%	0.35	3
10.0	3	11.1%	16	9.4%	0	0.0%	19	9.0%	0.41	3,
10.5	5	18.5%	22	12.9%	1	8.3%	28	13.3%	0.48	3, 4
11.0	1	3.7%	17	9.9%	0	0.0%	18	8.6%	0.56	3, 4
11.5	4	14.8%	12	7.0%	1	8.3%	17	8.1%	0.59	4, 5
12.0	1	3.7%	13	7.6%	1	8.3%	15	7.1%	0.71	4, 5
12.5	1	3.7%	10	5.8%	0	0.0%	11	5.2%	0.79	4, 5, 6
13.0	0	0.0%	6	3.5%	2	16.7%	8	3.8%	0.91	4, 5, 6
13.5	0	0.0%	8	4.7%	0	0.0%	8	3.8%	1.01	5, 6, 7
14.5	0	0.0%	1	0.6%	0	0.0%	1	0.5%	1.31	6
15.0	0	0.0%	2	1.2%	0	0.0%	2	1.0%	1.39	5, 6
15.5	0	0.0%	2	1.2%	0	0.0%	2	1.0%	1.68	6, 7
16.0	0	0.0%	1	0.6%	0	0.0%	1	0.5%	1.72	6
16.5	0	0.0%	2	1.2%	0	0.0%	2	1.0%	2.27	6, 8
17.5	1	3.7%	0	0.0%	0	0.0%	1	0.5%	2.70	9

Body of water:	Round Lake				
Date:	06/24/02	to	06/26/02		
Species:	Yellow perch				

Total number:	104	Avg. Ln.:	10.0
Length range:	3.7	to	12.3
Total weight:	57.05	PSD:	0.0

Effort:	GN lifts:	6	EF hrs:	1	TN lifts:	6
CPE:	16.5		3.0		0.3	

	<u>GN</u>	<u>%</u>	EF	<u>%</u>	<u>TN</u>	<u>%</u>	<u>Total</u>	<u>%</u>
SS	99	100.0%	2	66.7%	1	50.0%	102	98.1%
QS	96	97.0%	0	0.0%	1	50.0%	97	93.3%
PS	59	59.6%	0	0.0%	0	0.0%	59	56.7%
MS	4	4.0%	0	0.0%	0	0.0%	4	3.8%
TS	0	0.0%	0	0.0%	0	0.0%	0	0.0%
HS	98	99.0%	1	33.3%	1	50.0%	100	96.2%
Total	99		3		2		104	

Length	<u>GN</u>	<u>%</u>	<u>EF</u>	<u>%</u>	<u>TN</u>	<u>%</u>	<u>Total</u>	<u>%</u>	Ave. Wt.	<u>Age</u>
3.5	0	0.0%	1	33.3%	0	0.0%	1	1.0%	0.02	1
4.0	0	0.0%	0	0.0%	1	50.0%	1	1.0%	0.04	1
7.5	1	1.0%	1	33.3%	0	0.0%	2	1.9%	0.19	2
8.0	3	3.0%	1	33.3%	0	0.0%	4	3.8%	0.22	2
8.5	2	2.0%	0	0.0%	0	0.0%	2	1.9%	0.25	2
9.0	6	6.1%	0	0.0%	0	0.0%	6	5.8%	0.34	2, 3
9.5	18	18.2%	0	0.0%	1	50.0%	19	18.3%	0.42	3
10.0	21	21.2%	0	0.0%	0	0.0%	21	20.2%	0.50	3, 4, 5
10.5	24	24.2%	0	0.0%	0	0.0%	24	23.1%	0.63	3, 4
11.0	9	9.1%	0	0.0%	0	0.0%	9	8.7%	0.70	3, 4
11.5	7	7.1%	0	0.0%	0	0.0%	7	6.7%	0.84	3, 4, 5
12.0	7	7.1%	0	0.0%	0	0.0%	7	6.7%	0.95	4, 5
12.5	1	1.0%	0	0.0%	0	0.0%	1	1.0%	0.90	5

Body of water:	R	Round Lake					
Date:	06/24/02	to	06/26/02				
Species:		Redear					

Total number:	105	105 Avg. Ln.:		
Length range:	2.1	to	10.1	
Total weight:	25.37	PSD:		80.0

Effort:	GN lifts:	6	EF hrs:	1	TN lifts:	6
CPE:	0.3		10.0		15.5	

	<u>GN</u>	<u>%</u>	<u>EF</u>	<u>%</u>	<u>TN</u>	<u>%</u>	<u>Total</u>	<u>%</u>
SS	2	100.0%	10	100.0%	59	63.4%	71	67.6%
QS	0	0.0%	8	80.0%	39	41.9%	47	44.8%
PS	0	0.0%	1	10.0%	8	8.6%	9	8.6%
MS	0	0.0%	0	0.0%	0	0.0%	0	0.0%
TS	0	0.0%	0	0.0%	0	0.0%	0	0.0%
HS	1	50.0%	8	80.0%	46	49.5%	55	52.4%
Total	2		10		93		105	

<u>Length</u>	<u>GN</u>	<u>%</u>	<u>EF</u>	<u>%</u>	<u>TN</u>	<u>%</u>	<u>Total</u>	<u>%</u>	Ave. Wt.	<u>Age</u>
2.0	0	0.0%	0	0.0%	4	4.3%	4	3.8%	0.01	1
2.5	0	0.0%	0	0.0%	22	23.7%	22	21.0%	0.01	1
3.0	0	0.0%	0	0.0%	5	5.4%	5	4.8%	0.02	1
3.5	0	0.0%	0	0.0%	2	2.2%	2	1.9%	0.03	2
4.0	0	0.0%	0	0.0%	6	6.5%	6	5.7%	0.05	2
4.5	1	50.0%	0	0.0%	2	2.2%	3	2.9%	0.06	2
5.0	0	0.0%	2	20.0%	4	4.3%	6	5.7%	0.10	2, 3
5.5	0	0.0%	0	0.0%	2	2.2%	2	1.9%	0.15	2
6.0	0	0.0%	0	0.0%	2	2.2%	2	1.9%	0.19	2, 3
6.5	0	0.0%	0	0.0%	2	2.2%	2	1.9%	0.21	3
7.0	1	50.0%	1	10.0%	4	4.3%	6	5.7%	0.26	3
7.5	0	0.0%	2	20.0%	11	11.8%	13	12.4%	0.34	3
8.0	0	0.0%	2	20.0%	3	3.2%	5	4.8%	0.44	3, 4
8.5	0	0.0%	1	10.0%	14	15.1%	15	14.3%	0.48	4
9.0	0	0.0%	1	10.0%	4	4.3%	5	4.8%	0.51	5
9.5	0	0.0%	0	0.0%	6	6.5%	6	5.7%	0.67	5, 6, 7
10.0	0	0.0%	1	10.0%	0	0.0%	1	1.0%	0.78	6